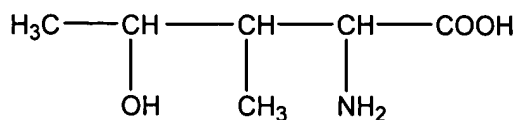


1. (Currently Amended) A method of inducing an insulin sensitizing or insulin mimetic effect in a tissue of a patient in need thereof ~~having Type II diabetes~~, the method comprising administering to the patient 4-hydroxyisoleucine of formula



and/or the lactonic form thereof.

2. (Previously Presented) The method of claim 1, characterised in that said 4-hydroxyisoleucine and/or lactonic form thereof exercises an insulin mimetic and/or insulin-sensitizing effect at the level of a peripheral target tissue of insulin.

3. (Previously Presented) The method of claim 1, characterised in that said 4-hydroxyisoleucine and/or lactonic form thereof reduces phosphatase activity associated with the signaling route of the insulin receptor, and/or stimulates PI 3-kinase activity on IRS-1 and/or IRS-2.

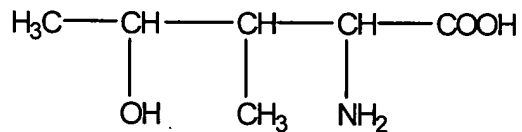
4. (Canceled).

5. (Previously Presented) The method of claim 1, characterised in that the 4-hydroxyisoleucine is presented in the form of its 2S, 3R, 4S isomer or the corresponding lactone.

6-12. (Canceled).

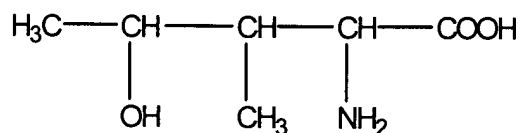
13. (Previously Presented) The method of claim 1, wherein administration of the 4-hydroxyisoleucine and/or lactonic form thereof reduces the need of the patient for exogenic insulin.

14. (Previously Presented) A pharmaceutical composition or a kit for the treatment of Type II diabetes, comprising both insulin and 4-hydroxyisoleucine of formula



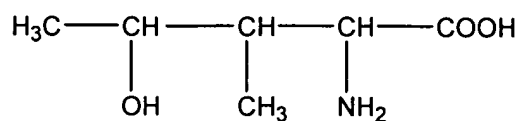
and/or the lactonic form thereof.

15. (Currently Amended) A method of inducing an insulin sensitizing effect in a tissue of a patient in need thereof, wherein the patient has ~~having~~ Type II diabetes, the method comprising administering to the patient 4-hydroxyisoleucine of formula



and/or the lactonic form thereof.

16. (Currently Amended) A method of inducing an insulin mimetic effect in a tissue of a patient in need thereof ~~having Type II diabetes~~, the method comprising administering to the patient 4-hydroxyisoleucine of formula



and/or the lactonic form thereof.

17. (Previously Presented) The method of claim 1, further comprising administering insulin to the patient.

18. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is orally administered to the patient.

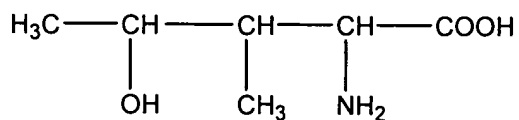
19. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is administered to the patient two times per day.

20. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is administered to the patient three times per day.

21. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is administered in the form of a capsule.

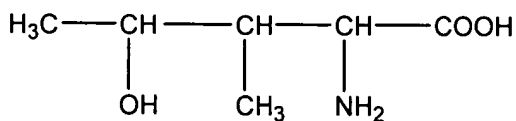
22. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is administered in the form of a tablet.

23. (Previously Presented) A method of treating Type II diabetes by inducing an insulin sensitizing or insulin mimetic effect in a tissue of a patient in need thereof, the method comprising administering to the patient 4-hydroxyisoleucine of formula



and/or the lactonic form thereof.

24. (Previously Presented) A method of treating Type II diabetes by inducing an insulin-sensitizing effect in a tissue of a patient in need thereof, the method comprising administering to the patient the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine of formula



25. (Previously Presented) The method of claim 24, further comprising administering insulin to the patient.

26. (Previously Presented) The method of claim 24, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is orally administered to the patient.

27. (Previously Presented) The method of claim 24, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered to the patient once a day.

28. (Previously Presented) The method of claim 24, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered to the patient two times per day.

29. (Previously Presented) The method of claim 24, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine and is administered to the patient three times per day.

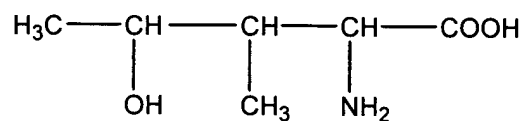
30. (Previously Presented) The method of claim 24, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered in the form of a capsule.

31. (Previously Presented) The method of claim 24, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered in the form of a tablet.

32. (Previously Presented) The method of claim 24, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered in the form of a solution.

33. (Previously Presented) The method of claim 24, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered in a powder form.

34. (Previously Presented) A method of treating Type II diabetes by inducing an insulin mimetic effect in a tissue of a patient in need thereof, the method comprising administering to the patient the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine of formula



35. (Previously Presented) The method of claim 34, further comprising administering insulin to the patient.

36. (Previously Presented) The method of claim 34, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is orally administered to the patient.

37. (Previously Presented) The method of claim 34, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered to the patient once a day.

38. (Previously Presented) The method of claim 34, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered to the patient two times per day.

39. (Previously Presented) The method of claim 34, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine and is administered to the patient three times per day.

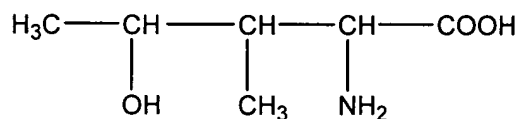
40. (Previously Presented) The method of claim 34, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered in the form of a capsule.

41. (Previously Presented) The method of claim 34, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered in the form of a tablet.

42. (Previously Presented) The method of claim 34, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered in the form of a solution.

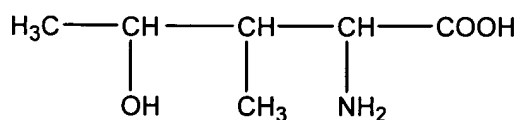
43. (Previously Presented) The method of claim 34, wherein the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine is administered in a powder form.

44. (New) A method of inducing an insulin sensitizing or insulin mimetic effect in a tissue of a patient having hyperinsulinemia, the method comprising administering to the patient 4-hydroxyisoleucine of formula



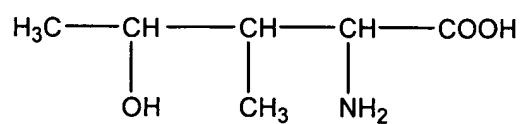
and/or the lactonic form thereof.

45. (New) A method to combat insulin resistance in a patient in need thereof, comprising administering to the patient the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine of formula



and/or the lactonic form thereof.

46. (New) A method to combat hyperinsulinemia in a patient in need thereof, comprising administering to the patient the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine of formula



and/or the lactonic form thereof.